

### **USER'S GUIDE**

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### IMPORTANT: READ FIRST!

### Thank you for your purchase of the Jointmaker Pro!

Your experience with this innovative new tool should be nothing but positive. Towards that objective we are asking you to contact us with any questions regarding assembly or use of the Jointmaker Pro. We can be reached by either phone or email:

### 1.800.253.3332

John Economaki: john@bridgecitytools.com (JM-P inventor)

Michael Berg: michael@bridgecitytools.com (Production Manager/Designer/Woodworker)

We have also created a forum dedicated to the Jointmaker Pro for fellow owners to share and exchange ideas; http://www.bridgecitytools.com/discussion/

We recommend you visit this forum periodically for exciting new ideas, tips and tricks. NOTE: This is a moderated forum and we will do our best to keep it positive, exciting and a useful resource.

### **OVERVIEW**

The Jointmaker Pro is the world's first stationary hand crosscut saw and will accurately allow you to make most of the cuts required in wood joinery plus a myriad of other sawing applications.

Consisting primarily of two independent linear tables mounted over specially designed, fine-toothed saw blades, the Jointmaker Pro redefines the meaning of "cut by hand." Using no electrical power, the Jointmaker Pro is designed specifically to make precision cuts for the most demanding craftspeople with as little noise as possible, and without the need for dust collection. Understanding how this tool works—what it can and cannot do—is your key to a successful and fruitful experience.

Cutting wood accurately by hand requires a great deal of practice and is difficult for many, particularly those new to the craft. With the Jointmaker Pro, people of all ages and experience levels can achieve results that are MORE ACCURATE than cuts made with power equipment. Furthermore, the cuts are unparalleled in quality creating opportunities for new and exciting ideas not possible with traditional techniques.

At this time, please take a few minutes and peruse the assembly section of this guide to become familiar with the nomenclature of the Jointmaker Pro. This will make the remainder of this section much easier to understand.

### **SAFETY**

Your Jointmaker Pro is no different than any other sharp tool—use common sense!

Although it may seem safe to take risks because the saw blade is stationary—and the only motion is provided by YOU—safety should never be taken for granted.

Etched on the top of each sliding table is a graphic element that is designed to remind you of the risk to your fingers. It may seem obvious, but we strongly recommend keeping your fingers out of this zone, especially when the blade is tilted.

After you have spent an hour or two using the Jointmaker Pro we hope you share your new found ability with other members of your family—this tool can be enjoyed by many who like making gallery quality cuts in a noise free environment!

### SAW RIGIDITY AND ERGONOMICS

Under all circumstances, the Jointmaker Pro needs to be firmly anchored to a work surface or attached to a stand. If the saw moves while cutting your accuracy and enjoyment of the tool will be less than optimal.

The front table height of the Jointmaker Pro should be an inch or so below your belt line. At this height, you will be able to make a full stroke without undue stress on your back or arms. If possible, we recommend that the rear of the Jointmaker Pro be approximately three inches higher than the front. This incline shortens the stroke of your arms, increases your ability to see your work and reduces strain on your lower back during long work sessions.

### WORK HOLDING REQUIREMENTS

Traditionally when cutting wood with a hand saw you clamp the material to be cut to a workbench or hold your stock in a vise. With either method, the stock should always be firmly anchored in order to achieve optimal, and accurate, results.

The same work holding requirements are true when making most cuts with the Jointmaker Pro. The sliding table is analogous to a workbench surface and the angled trap clamps act as a vise. These elements become particularly crucial with the Jointmaker Pro because unlike any other hand sawing experience, you are cutting from the bottom up as opposed to top down. Without your stock firmly anchored to the sliding tables, the negative feed (the tendency of the wood to ride up over the top of the blade) becomes difficult to manage with hand strength alone. In almost all cases, we strongly recommend that you utilize these work holding aids for accuracy and blade longevity. When using the blade in a tilted position, trap clamping is mandatory.

### SAW BLADES & DEPTH OF CUT

All of the saw blades currently designed for the Jointmaker Pro contain between 350 and 460 teeth over their length. Because the blade is inclined (the front of the blade is lower than the back of the blade) in relation to the table surfaces, each tooth bears the exact same workload.

For example, a piece of walnut with a 1/2" x 1/2" cross-section can be cut in half with one stroke using the standard crosscut blade. To correctly set the blade for this cut, you would adjust the blade so that the first couple of teeth are below table height, and the last tooth of the saw blade is set with the pitch adjustor to approximately 1/32" above the stock of the wood. With the stock held firmly against the fence, one stroke and the cut is complete, smooth and accurate. See the Cutting Guide page 20 for more details.

This example is possible because the standard JM-P crosscut blade has approximately 400 teeth. Using the stock and set-up described above, each tooth of the saw has a chip load of just over one one-thousandth of an inch (.5/400 = 0.00125"). It is the combination of the chip load, precise linear movement and blade rigidity that makes Jointmaker Pro cuts unparalleled in quality or accuracy.

For wider stock (where more teeth are simultaneously engaged with the stock), multiple passes are required utilizing a smaller depth of cut per pass.

For example, 1/2" thick walnut 4" in width would dictate that you set the saw up with the first couple of teeth below table height (using the hand crank at the front of the JMP) and the last tooth approximately 1/16" above the table (using the Pitch Adjustor). With this set-up, it will take 8 passes to cut the stock in half. Between each pass the blade is raised approximately 1/16". In this situation, the 400 teeth are required to cut approximately 1/16th of material per pass. The chip load is now one ten-thousandth of an inch (.0625/400) per tooth! However, because the board is 4" in width, more teeth are engaged during each pass creating more resistance. More resistance requires smaller bites for the cuts to feel almost effortless.

The only "guide" we can provide for tailoring your technique to accommodate the myriad of different species and sizes of wood is to emphasize that the effort required to cut any wood should be minimal. Harder material or wider stock requires smaller bites and more passes. If you are overly aggressive, you will dramatically shorten blade life and the quality of your cuts will suffer. After a short "getting acquainted" period all of this will become second nature.

As a reference, one full revolution of the crank handle raises the blade exactly .055" or slightly less than 1/16". You will discover that extremely dense woods will require blade height adjustments as small as 1/8 of a revolution between cuts and some softwoods can be cut with 3 full revolutions for each pass! It is your job to discover the optimal settings for ease of use according to your own preferences and applications.

You will soon discover the general purpose cross-cut blade that ships with the JM-P will do the majority of cuts (.4mm x 28). The 16 tooth rip blade is useful for cutting tenons and dovetails if you have many to cut. The .3mm crosscut is ideal for small stock but does not track well in deep cuts (it is so thin it will follow the density changes of the wood being cut).

You will know when your blade is dull because of the resistance you sense with cutting or the quality of the cut is not smooth to the touch. Blades are not designed to be sharpened—they are disposable. Replacement blades can be found at; www. bridgecitytools.com or by calling 1-800-253-3332.

NOTE: Please visit www.bridgecitytools.com to view the Joint-maker Pro videos!

### THE FENCES AND HAND PLACEMENT

The Jointmaker Pro utilizes two fences that are normally bridged by a sacrificial wooden fence. The only time you do not use both tables is when you are cutting face miters.

There are two sacrificial fences, one is straight and the other has an angled face. Use the straight fence for joinery and the trap fence for crosscuts. We recommend the fences be locked in the forward position for all cuts of 4" or less in width. For stock wider than 4 inches, slide the fences to the back position.

When possible, your hands should be directly over the center of the dovetailed ways on each side of the saw blade. As your experience with the saw grows, you will learn that you can use one hand to make your strokes and the other will be raising the blade on the return stroke. This combination is efficient and fast.

We recommend that your first cuts be made with both hands employed during the sawing strokes.

NOTE: The table tops are orange for a reason; you can write on them with a pencil. For example, once you have the fence set to 90 degrees, you can scribe a pencil line along the fence and use this line as a reference. Please visit our website to view the video on how we set angles on the Jointmaker Pro.

### STUPID MISTAKES WE HAVE MADE

We have ruined several blades because of human error. Please review this section to learn from our mistakes.

- •MAKE SURE THE KEEL, THE FENCES, AND YOUR CLAMPS are all TIGHT before sawing. This will eliminate 80% of the mistakes we have made.
- •Lower the blade below table height after each session. Horizontal surfaces attract things, and the blades are easily damaged with contact by metal objects or heavy wood.
- •It is helpful to have an old toothbrush nearby to periodically clean wood fibers that may be embedded in the gullets of the blade. This is particularly helpful when using the rip blade.
- •Lastly, enjoy the fact that you are the motor. Let the saw do the work and use as many passes as needed to accomplish your tasks. WE GUARANTEE that aggressive sawing techniques are going to be expensive for you.

### **LUBRICATION**

Before EACH SESSION, we recommend you check the tables for slop (easy to fix—see step 19 on page 14) and lubricate the ways with aTeflon based dry-film lubrication. You want your tables to slide as smoothly as possible. For example, at trade shows, we lubricate the ways three or four times over an eight hour period.

Please review the lubrication guide on page 19 for all other lubrication locations (this is done once or twice a year depending on use.)

### **ASSEMBLY**

Step-by-step assembly instructions are included in this Users Guide. Please contact us if you have any difficulties assembling the Jointmaker Pro. We also have posted on our website videos showing how we align the blade to the ways and proper table adjustments. They are not difficult to do but the videos may increase your understanding of these two important adjustments.

Your Jointmaker Pro is fully warranted for defects in workmanship. Please notify us immediately if you have encountered adefective component. We will replace it immediately.

### **CALIBRATION**

LINEAR TABLE ADJUSTMENTS The Jointmaker Pro was designed to perform as quietly as possible. The two dovetailed aluminum rails on each side of the blade are fixed in place by the front and back plates—they are not adjustable. Underneath each sliding table are two acetyl dovetailed sliders. The slider closest to the saw blade on each table is fixed (non-adjustable). The acetyl slider furthest from the saw blade on each table is adjustable and when properly tensioned, both tables will slide smoothly without any lateral slop. You will periodically adjust the tension on these two ways over time for optimal performance —this process usually takes two or three minutes and is fully demonstrated in the assembly video.

**SAW GUIDES** The saw blade of the Jointmaker Pro moves up and down between two blade guides that literally pinch the blade. One guide is black, the other is blue. Once assembled, the blue guide is the only guide that is adjusted when changing between blades of different thicknesses. The black guide is never adjusted.

**FRONT AND BACK PLATE TRAVELERS** The saw blade and the components that raise and lower the blade are attached to an aluminum keel. The keel is attached to acetal travelers that allow the blade to tilt up to 45 degrees in either direction by riding in arcs milled into the front and back plates.

The two acetyl travelers must glide in the front and back plates without any slop. There are two nylon set screws in each traveler that allow for this adjustment. If these nylon set screws are not properly adjusted, the keel will not remain parallel to the ways.

### YOUR FIRST CUT

Once your Jointmaker Pro is properly set-up, you are ready to make your first cut.

We recommend practicing your first cut on a small dowel rod, 1/4" - 1/2" in diameter. Set the leading edge of the crosscut blade slightly below table height, and using the pitch adjustor, raise the rear of the blade until it is slightly taller than your stock.

Before you make a cut, take a couple of "dry runs" to get a feel for the resistance of the tables in motion. When comfortable, hold your material firmly against the fence and with one smooth, controlled push, cut your stock. You will discover after just a few passes the rhythm required for incredible results. As the density/width of your stock changes, you will sense the need to reduce depth of cut and increase the number of passes. THERE ARE NO GUIDELINES other than to offer that the feedback you sense from the cutting action will dictate any adjustments you will need to make for effortless cutting.

We invite you to visit our website (www.bridgecitytools.com) to view videos of how we cut different materials.

### YOUR EXPERIENCES WITH THE JOINTMAKER PRO MATTER!

Please share your experiences and ideas regarding the Joint-maker Pro with fellow users! This new and exciting tool is capable of extraordinary applications, some that may be understood only by dedicated users. Please share and/or inquire by participating in the user forums located at www.bridgecitytools.com.

Thank you again for your purchase of the jointmaker pro. please share pictures and stories with us as you employ this remarkable new tool in your shop!!

John Economaki President

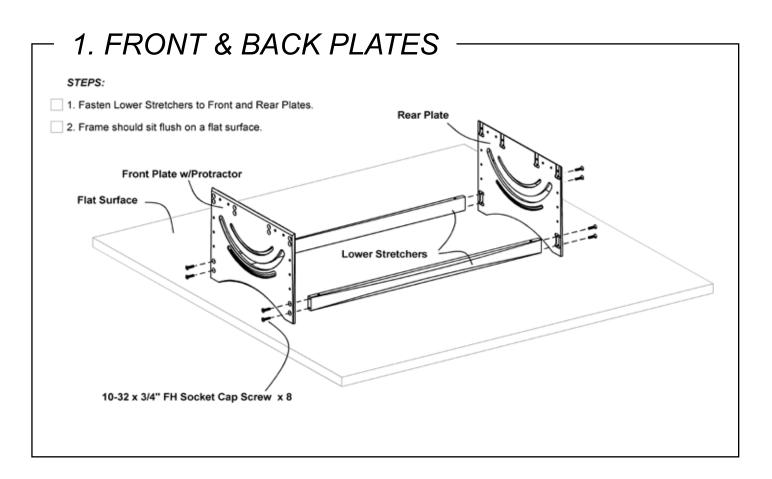
### **TOOLS REQUIRED FOR ASSEMBLY**

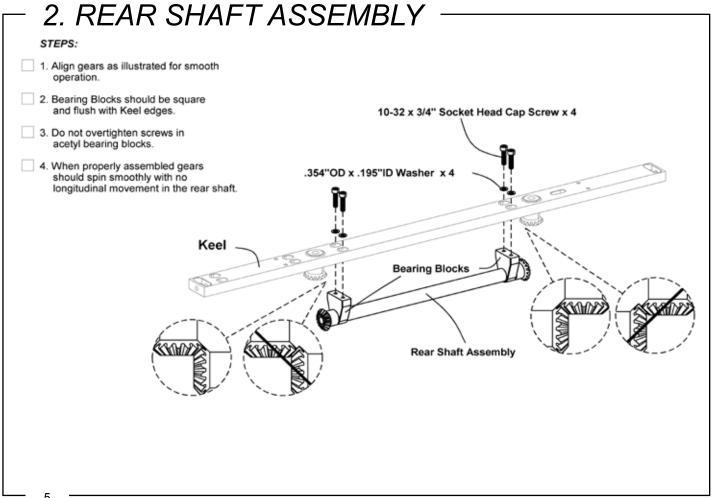
ALEL

A flat table surface is the best place to assemble the Jointmaker Pro.

#2 Philips Head Screwdriver
Small Hammer
9/16" Open ended wrench or Adjustable Wrench
Needle Nose Pliers

### FASTENER LEGEND .684" OD Steel Flat Washers x 6 Pitch Screw Barrel Nut x 1 10-32 Nut x 6 Acetyl Washers x 4 6-32 Nut x 4 .354 OD Steel Washer x 20 3/8-16 Jam Nut x 1 .310 Shim Washer x 2 $\bigcirc$ Dovetail Nut x 2 Rubber Bumper x 4 5-40 x 3/16" Philips Head Screw x 5 6-32 x 5/16" Button Head Cap Screw x 4 Spring Pin x 1 10-32 x 3/8" Socket Flat Head Screw x 2 Finger Stops, Left and RIght 2 each 4-40 x 1/2" Socket Flat Head Screw x 1 8-32 x 3/8" Philips Head Screw x 4 Acrylic Indicator x 1 10-32 x 1/2" Socket Head Cap Screw x 4 10-32 x 3/4" Socket Flat Head Screw x 48 Keel Knobs x 2 10-32 x 3/4" Socket Head Cap Screw x 20 5/16-18 x 3/4" Bolt x 4 5/16-18 x 2-1/2" Bolt 5/16-18 Pitch Adjustor with Screws and washers x 1 5/16-18 Left Hand Height Screw x 1



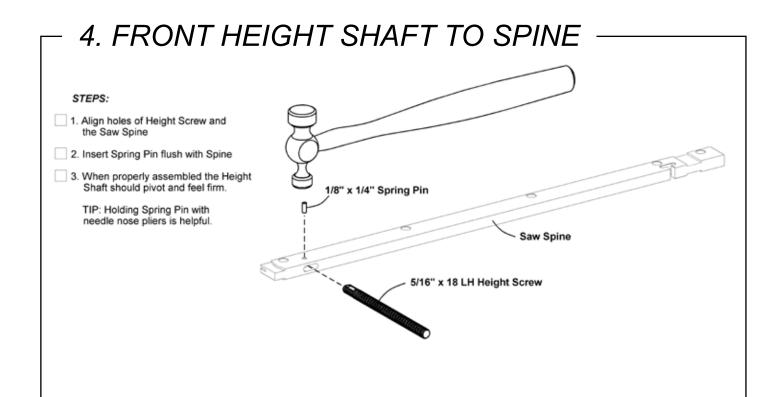


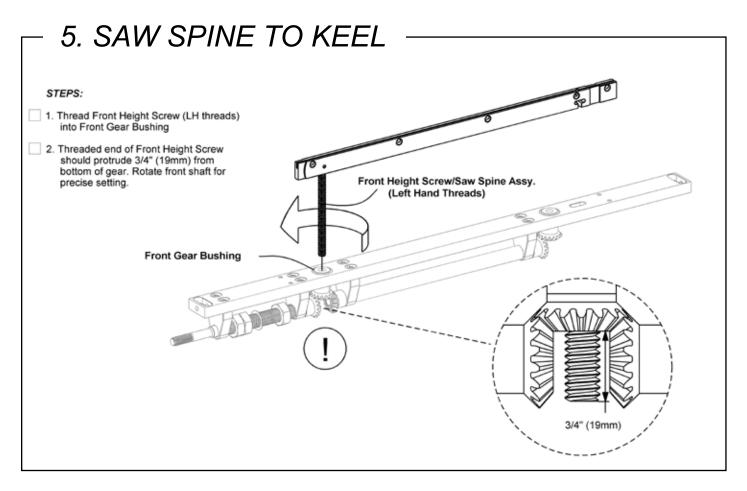
## - 3. FRONT SHAFT TO KEEL 3.354"OD x .195"ID Washer x 4 Bearing Block Front Shaft Assembly 1. Align gears as illustrated for smooth operation. 2. Bearing Blocks should be square and flush with Keel edges. 3. Do not overtighten screws in acetyl bearing blocks.

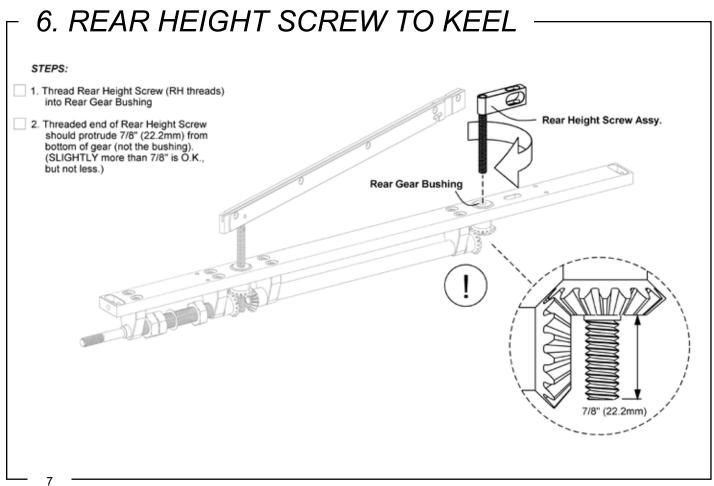
Tighten Bearing Blocks Flush & 90 Degrees to Keel Edges

6

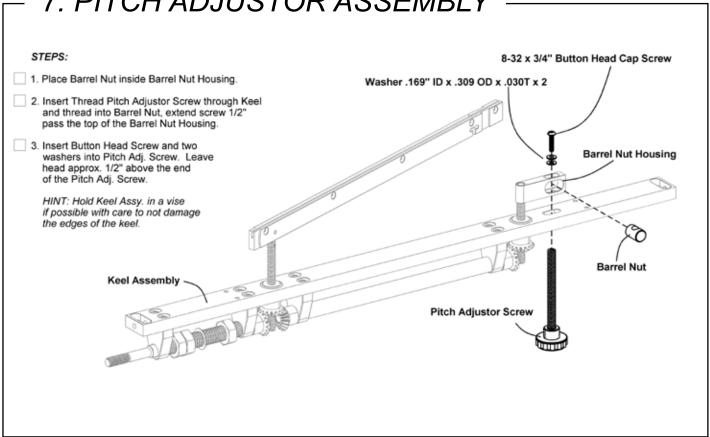
 4. When properly assembled all 5 gears should spin smoothly with no longitudinal movement in either shaft.

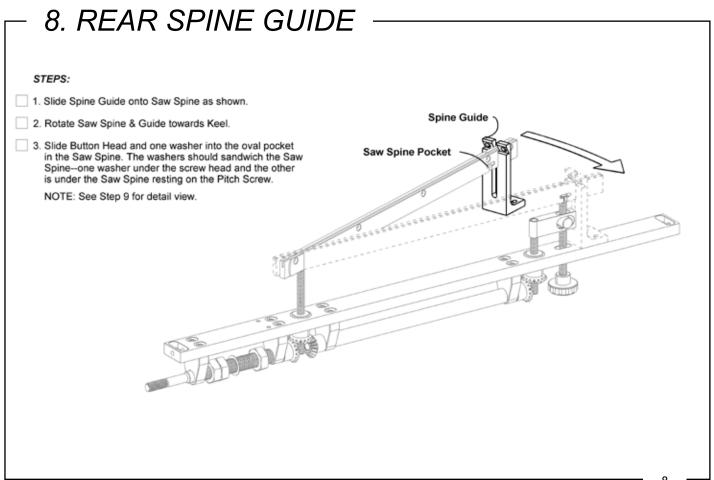


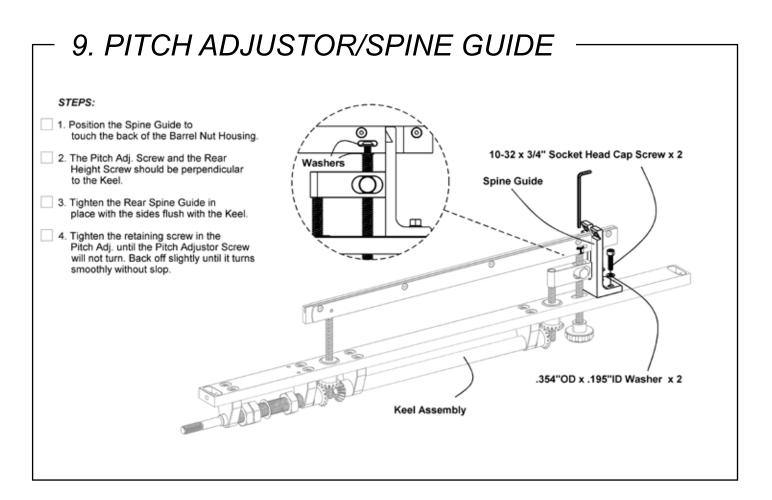


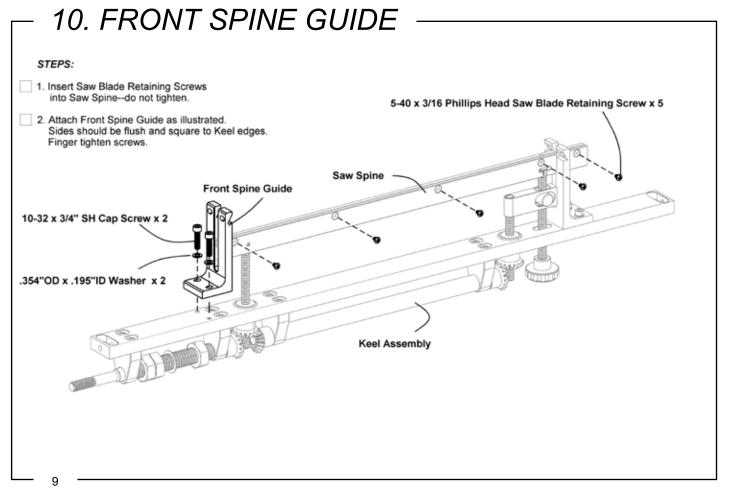


### 7. PITCH ADJUSTOR ASSEMBLY

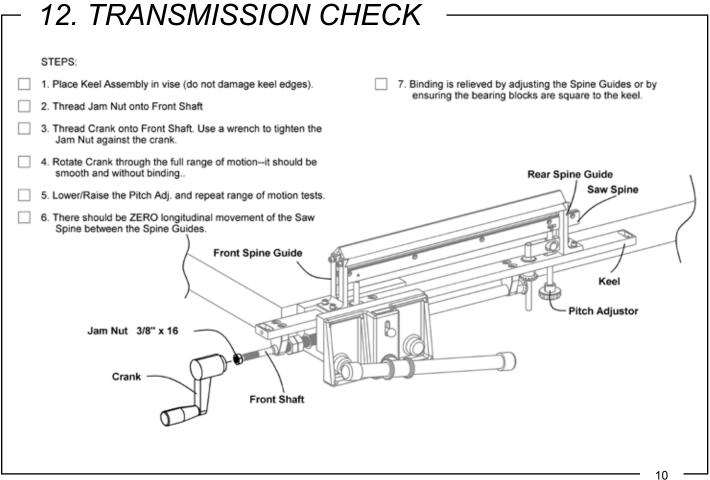




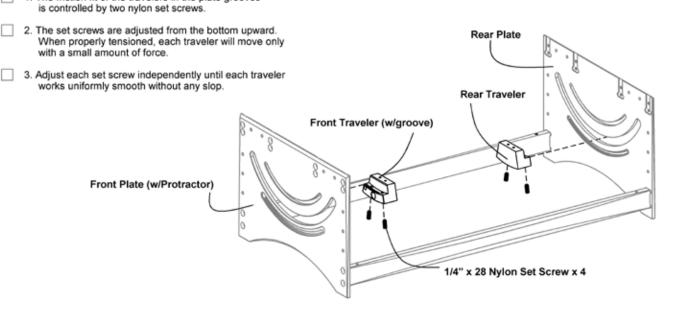




### 11. SAW BLADE GUIDES STEPS: 1. Place one Shim Washer between Front Spine Guide 10-32 x 1/2"Socket Head Cap Screw x 4 and Black Saw Guide as shown. .195 ID x .394 OD x .030 T Washer x 4 Attach Black Saw Guide to left side of Front and Rear Spine Guides. The outside face of the Black Saw Guide Black Saw Guide should be perfectly flush with the outside faces of both Spine Guides. Blue Saw Guide 3. Repeat steps 1 & 2 for Blue Saw Guide .010" Thick Shim Washer x 2 Front Spine Guide Keel 4. Slide bottom of Front Spine Guide forward to remove all longitudinal play of the Spine between the Spine Guides. 5. Tighten Front Spine Guide to Keel

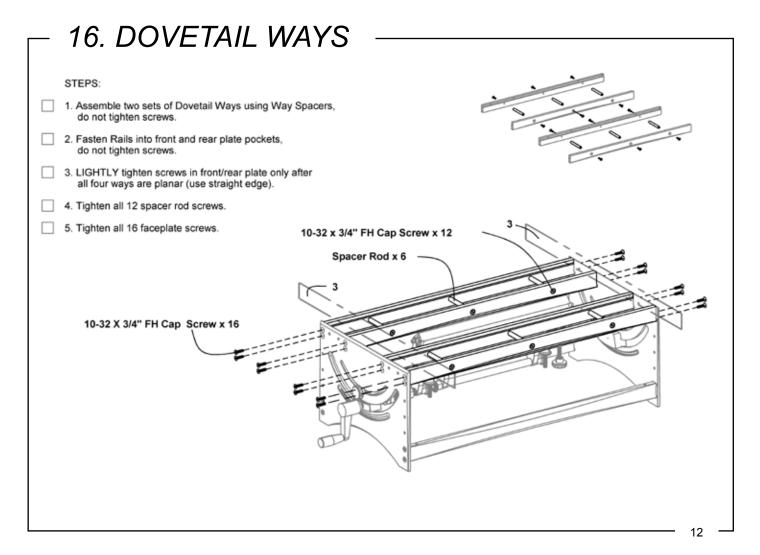


### 13. TRAVELERS STEPS: □ 1. The friction fit of the travelers in the plate grooves is controlled by two nylon set screws.

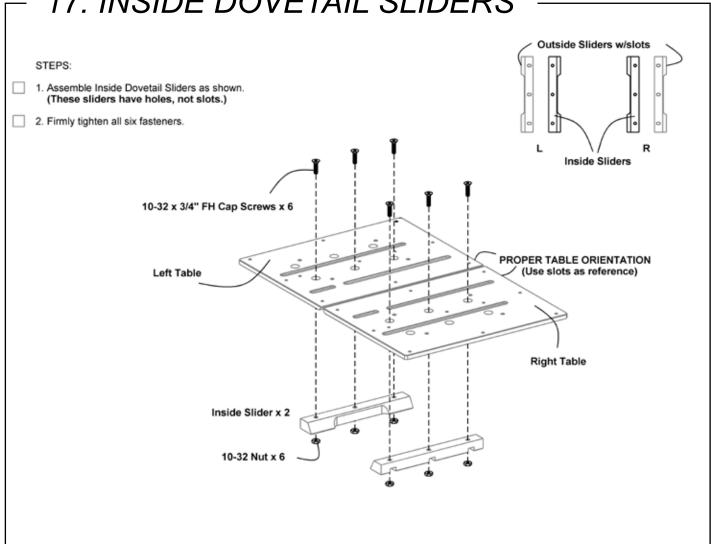


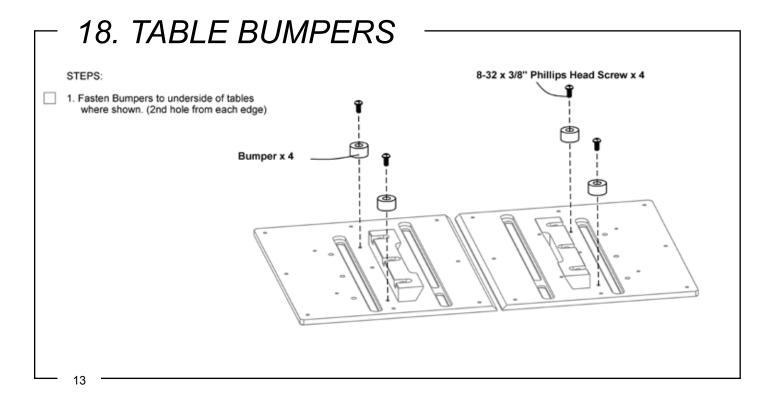
### 14. KEEL ASSEMBLY TO FRAME STEPS: Slide rear traveler to end of traveler groove in the rear plate. 2. Insert back of Keel Assembly into the rear plate traveler groove. 3. Move Keel Assy forward so front shaft protrudes through the front traveler and the keel rests on top of the traveler. 4. Slide rear traveler to center position and rest keel assy. on both travelers. 5. Attach all fasteners and hardware as illustrated. NOTE: Leave Keel Screws and Keel Locking Knobs finger tight only. Washer x 4 Rear Plate 10-32 x 3/4" Cap Screw x 4 .5" White Nylon Washer x 4 Crank Front Plate Jam Nut (set 1/32" from traveler) Keel Lock Knob w/1/4" x 20 Stud x 2 NOTE: See Step 15 for detail view.

## STEPS: 1. Nylon washer locations 2. Both Travelers should be rubbing the plates with Keel unlocked. 3. Jam Nut should NOT touch the Front Traveler (1/32" gap is preferable). 4. With the Keel Locking Knobs loose, there should be ZERO lateral movement of the Keel between the plates. Keel Locking Knobs x 2 Front Traveler Crank Front Plate Rear Plate Front Plate Front Plate Front Plate Rear Traveler A With the Keel Locking Knobs x 2



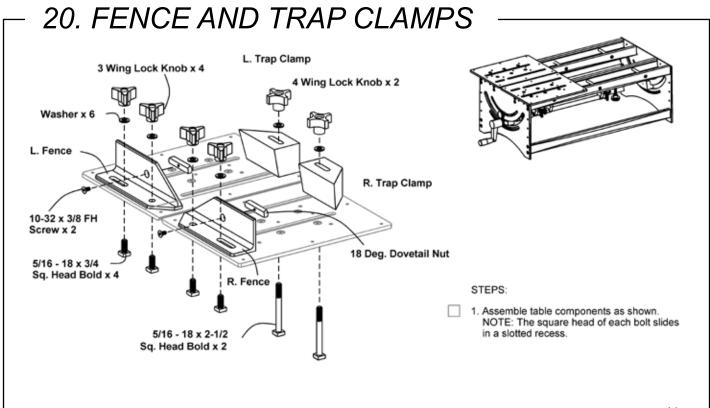
### 17. INSIDE DOVETAIL SLIDERS



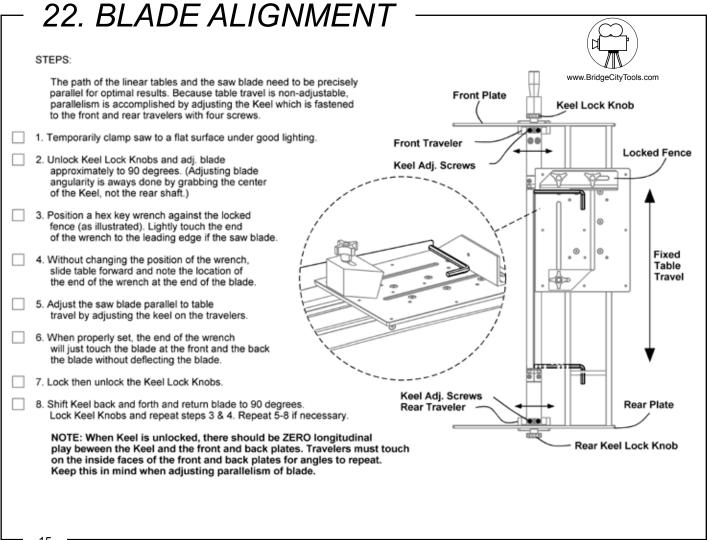


### 19. OUTSIDE DOVETAIL SLIDERS

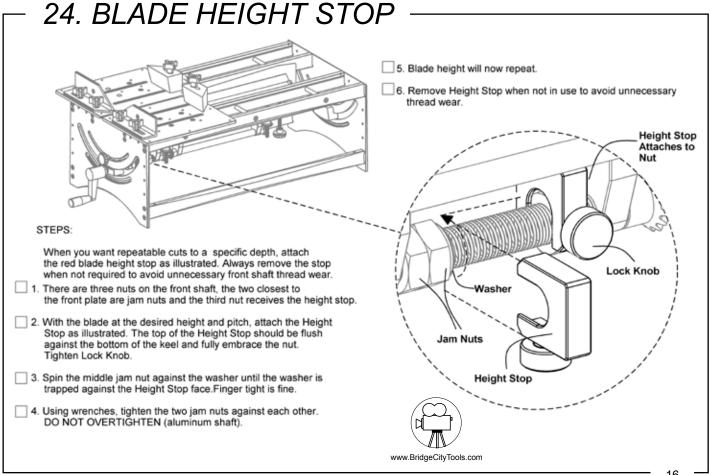
### STEPS: 1. Position left table between two way spacers as shown. The inside slider should be engaged with the dovetailed way. www.BridgeCityTools.com 2. Position Outside Slider under table screw holes and install fasteners. DO NOT TIGHTEN. 3. With your palm up, grab the outside slider with your fingers with the butt of your hand on the table edge for leverage. 4. Pull the slider towards you while pushing the table/fixed slider firmly into the adjacent dovetail way. Lightly tighten screws. 5. Slide the table (it should feel too tight) back and forth until the outside slider adjusts to the way for smooth operation. 6. When the table slides smoothly without lateral play tighten scews. Repeat process if necessary. 7. Repeat steps 1-6 for other table. Left Table **Outside Slider** 10-32 x 3/4 Flat Head Socket Table Alignement is acheived by pushing table inward while 10-32 Nut x 6 (both tables) pulling adjustable slider outward with enough pressure for smooth, play free action.



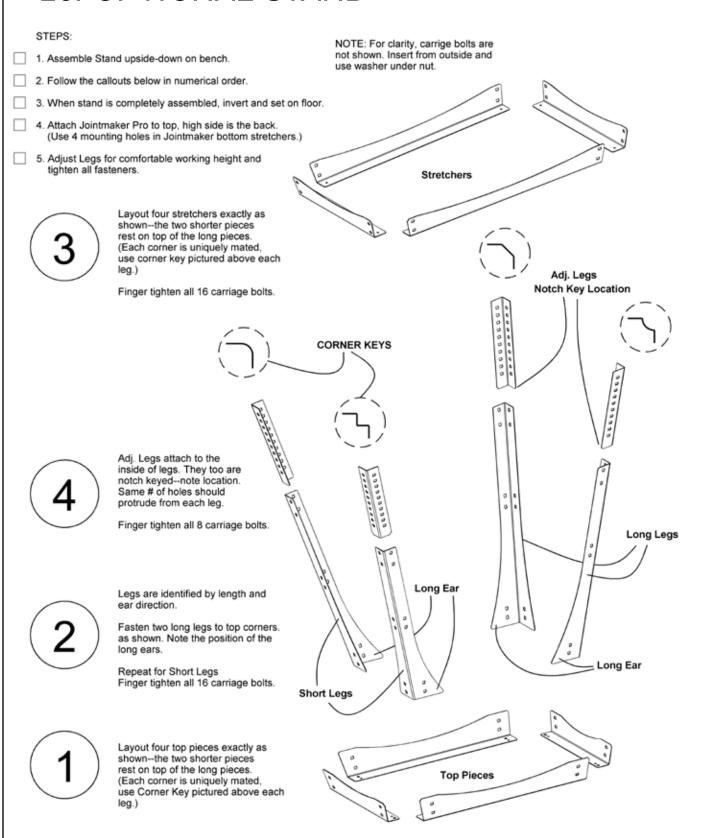
## STEPS: 1. Position both tables as illustrated below. 2. Loosen BLUE Saw Guide. (The Black Guide is never adjusted— It is a reference surface.) 3. Insert Crosscut Blade and tighten 5 spine screws. 4. Pinch blade between fixed BLACK guide and the adj. BLUE guide. Tighten both screws. 5. Blade should move up and down smoothly. 6. Raise blade to approx. 1/2" above table (front and back).



### 23. CURSOR AND FLIP DOWN STOPS HINT: If the fence feels "stuck" after STEPS: loosening the locking screws, tap the screws (hex key inserted) to free dovetail nut. 1. Insert acrylic cursor into front traveler groove and secure with screw. (Later, after you have made a cut that is exactly 90 degrees, you can accurately set the position the cursor.) A thin 6" rule is helpful in positioning cursor in slot. Attach Flip Down Stops exactly as illustrated. Square Nuts ride in faceplate grooves. Acrylic Cursor 3. Attach sacrificial fence to tables. 6-32 Square Nut Flip Down Stops x 4 4-40 x 1/2" FH Socket Screw HINT: Once you have set an angle that you will use frequently (8:1 dovetail for example), note 6-32 x 5/16" Button Head Cap Screw x 4 the reference with a pencil on the orange stop.



### 25. OPTIONAL STAND



# 26. STAND CORNER KEY ——

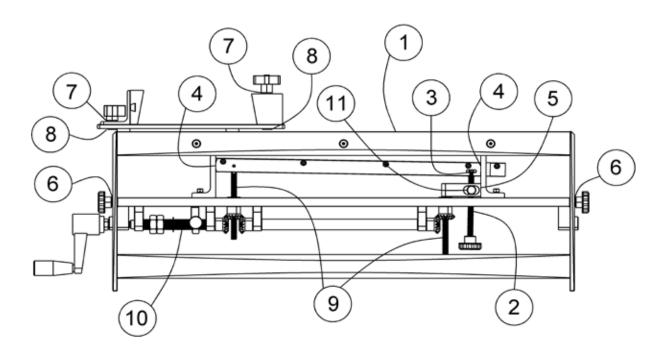
### 27. LUBRICATION GUIDE

NOTE: The Jointmaker Pro ships with a small tube of teflon<sup>tm</sup> based dri-film lubricant.. It is recommended that you lubricate all indicated moving parts commensurate with use. The nylon gears do not require lubrication.

Periodically clean all moving parts of saw dust and grime for optimal performance..

### STEPS:

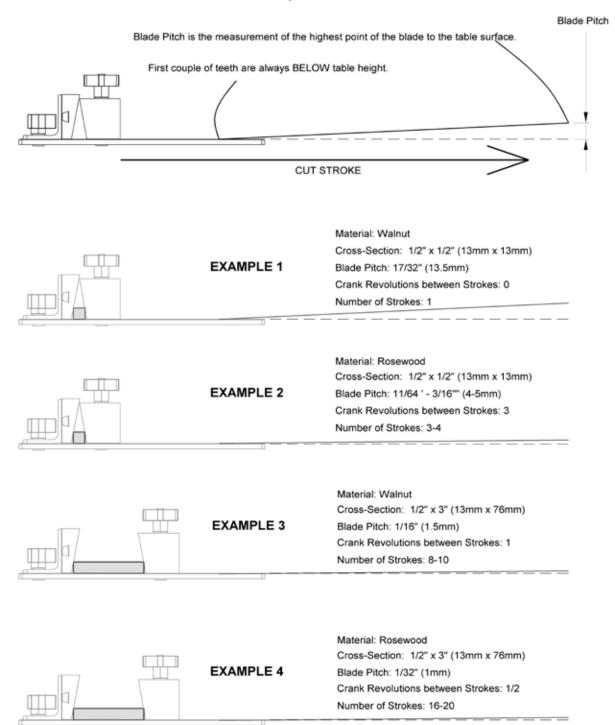
- 1. Before EACH SESSION, lubricate all four dovetail ways with TEFLON<sup>tm</sup> based dry film lube (Tri-Flow<sup>tm</sup>). Lubricate the bottom of the dovetails and the sliders via the rail lube ports. (Small holes on top of all four rails)
- 2. Threads of Pitch Adjustor
- 3. Both Washers that connect the pitch adjustor to the spine.
- 4. Bearing surface of the spine to the spine guide.
- 5. Bearing surface barrel nut housing to the spine guide.
- 6. Threads of the keel lock knobs.
- 7. Lock knob threads
- 8. All square head bolt heads.
- 9. Height screws
- 10. Front shaft when height stop is used.
- 11. Barrel Nut outside diameter.



### **CUTTING GUIDE**

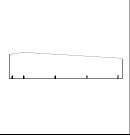
Use the following guidlines to determine the working relationship between blade pitch, material length and material density. These three variables determine the number of full (or partial) cranks required for a through cut.

Generally speaking, the smaller the cross-section the greater the pitch. As the cross-section lengthens, pitch decreases and the number of strokes and crank revolutions increases to complete the cut.



$\vdash$ NOTES		
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### JM-P ACCESSORIES



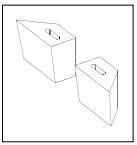
Rip Blade blades 1101-201RB6 Rip Blade blades 1101-201RB3 (5 Pack)

Cross Cut B 32 TPI blades 1101-201RB2 (5 Pack) Cross Cut B 32 TPI blades 1101-201RB5

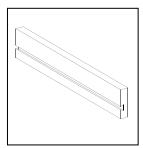
Cross Cut A 28 TPI blades 1101-201RB4 Cross Cut A 28 TPI blades 1101-201RB1 (5 Pack)



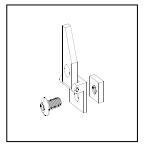
Trap Fence 1101-201-02



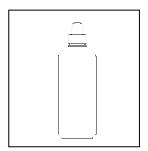
Trap Jaws, Left and Right 1101-201-01



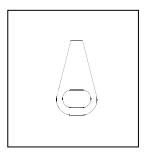
Straight Fence 1101-201-03



Finger Stops (4 pack) 1101-201-07



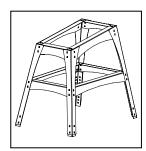
Teflon™ Lube 2 oz. 1101-201-04



Indicator 1101-201-05



18 degree Dovetail Router Bit 1101-201-06 1/4" Shank, 1/2" OD



JMP - Stand 1101-201B

### SATISFACTION GUARANTEE

If, for any reason, you are not 100% satisfied with your purchase, simply contact us WITHIN 90 DAYS of receipt for possible remedies, including return instructions. Should you require a return authorization, please contact us for packaging requirements. DO NOT DISASSEMBLE your Jointmaker Pro.

For our full return/repair policy, please refer to our website. www.BridgeCityTools.com



BRIDGE CITY TOOL WORKS A Division of Fine Tools, LLC 2545 SW Spring Garden St., Ste. 120 Portland, Oregon 97219

LOCAL (503) 282.6997 TOLL FREE (800) 253.3332 FAX (503) 287.1085